

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

August 9, 2006 Meeting

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Harkless

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

SOR-2006-NAV-02

John Piggott, Columbia River Towboat Association, submitted an SOR for consideration by the TMT for a change in spill operations at Lower Monumental. The bulk spill pattern at the project this year has caused an eddy effect around the guide wall along the approach to the project (tailwater) and has caused navigation problems for loaded barges passing up and down. The Towboat Association requested that spill be modified to zero if needed for the period of time it takes to navigate through the eddy to the lock or if traveling upstream, to navigate from the lock through the eddy. John estimated about 10 lockages per week for a 20-minute time period each. Rich Hilt, Chief Operator at Lower Monumental, noted that an additional eddy further downstream has added an extra navigation challenge.

TMT members asked questions and offered suggestions for addressing the navigation issue:

- During the presentation, it was suggested that empty barges did not experience the same problems as loaded barges – would there be a benefit to light loading the barges for safer navigation? It was estimated that reducing the load by a 1’ draft would lose about 10% of a barge’s capacity, and from a cost-effective standpoint, would not be a viable option.
- When did the problem begin? It began in early July but the cause was unknown until more recently when navigators began seeing a pattern of issues at the project.
- What is the cause for the eddy? As best as the project operators and towboaters can tell, the spill pattern is causing the eddy, not the volume or pool level.
- Has anything been done thus far to alleviate the problem? No, not operationally.
- A suggestion was offered to look for alternative spill pattern options that could meet both fish and navigation safety needs.
- How deep is the eddy problem? It is uncertain how deep the problem is, and it could change with water level fluctuations.
- Would it be feasible to coordinate the passage of the towboats at the same time as fish barges through Lower Monumental? The fish barges pass less frequently and so there is a possibility that some of the boats could be coordinated but it would not be a full solution to the problem.

After further discussion, TMT members that were present (note that Oregon, USFWS and Montana were not present for the discussion) did not object to implementing the SOR and supported the COE to work with salmon managers and others, through FPOM, to explore alternative spill patterns that would better support navigation safety and fish migration (for both near- and long term planning.) An FPOM meeting was scheduled for August 10. CRITFC noted that they would not support the SOR without first exploring alternative options, including 'light loading' the barges and alternative spill patterns at Lower Monumental. BPA did not object to the SOR, but noted that this would require a deviation from court-ordered spill and therefore would require additional legal coordination.

Action and Next Steps:

The COE planned to implement the SOR if needed, while exploring through FPOM options for different spill patterns to address the navigation safety issue and support fish migration, for both near and long term operations. The towboats will make a request to project operators as an issue arises, and the operator will keep track of how often the spill change occurs and report to TMT. The COE planned to send an official teletype on the planned operation this week, after further coordination with its attorneys and the court, and the FPOM discussion. TMT will receive feedback on the FPOM discussions and outcomes at the TMT meeting on Wednesday, August 16.

Lower Snake Operation During Low Flow Period

FPAC met and discussed operations during low flow periods when spill and generation cannot be maintained. The COE requested FPAC to discuss their preference for operations, either ponding water or 24-hour spill. FPAC recommended that the COE continue operating as it has been: When flows are below 30 kcfs go to a minimum 1 turbine unit generation for 24-hours/day and adjust spill if the top or bottom of the pool is reached (at Lower Granite, Lower Monumental and Ice Harbor). At Little Goose, spill 30% using 1 unit minimum generation and the rest spill.

Dworshak Operations

TMT reviewed current conditions and looked at two modeling scenarios submitted by the COE's Mike Schneider depicting potential outcomes for operating the project: 1) At full powerhouse until August 15 and reducing to 7.5 kcfs through the end of August, or 2) Going to 7.5 kcfs today (8/9) and maintaining for 15 days, then increasing flows to 10 kcfs for the remainder of August. Hells Canyon flow projections were the primary unknown factor and it was noted that the assumption made in the scenarios underestimated the actual flow that came down over the past week. Weather was forecasted to remain moderate over the next few days with no extreme weather patterns predicted for the next two weeks.

During an FPAC meeting, a consensus was reached to recommend maintaining full powerhouse out of Dworshak until there is a need to drop to 7.5 kcfs in order to meet a 1535' elevation target by the end of August, with the caveat that if extreme weather hits, the issue would be revisited. Idaho added that there was also value in adjusting flows out of Dworshak per the flows coming down from Hells Canyon.

ACTION: The COE will maintain full powerhouse at Dworshak until August 16 unless the salmon managers provide an alternative recommendation between now and then. If The salmon managers will continue to monitor conditions and if so desired (if significant changes in the weather or flows from Hells Canyon occur), will offer a recommendation for different operations for the COE to consider. TMT will revisit Dworshak operations at the August 16 meeting.

Review Summer Treaty Fishing

Kyle Dittmer, CRITFC, reported that four SOR's were submitted this year, with 6 weeks of summer treaty fishing. As in the past, the requests were for the COE to maintain a 1' pool elevation and stable pools during treaty fishing. As in the past, the COE commits to a 1.5' operation at Bonneville only. Overall, the fishing was good. Kyle noted using CRITFC's maintained a 1' range at Bonneville an average of 93% of the time, at The Dalles 62% of the time, and at John Day 99% of the time – John Day is the most important project for tribal fishing. The COE committed to a 1.5' hard and 1' soft constraint at Bonneville and this constraint was achieved 100% of the time.

Improvements were made by the COE in stabilizing flows, and to date, there had been no reports of any lost nets or other problems. Kyle commended the COE for its precise operations this year, and added that it has proven helpful for CRITFC to give the COE enough lead time to put operations in place. Autumn treaty fishing is likely to start in August/September for about 5 weeks, similar to last year. Kyle will update TMT at the August 16 meeting on plans for the Autumn fishery.

Operations Review

Reservoirs: Hungry Horse elevation was 3550.9' and Grand Coulee was at 1283.3'. Banks Lake was at elevation 1568'. Libby elevation was at 2450' and operating 14 kcfs out. The expected end of August elevation at Libby is around 2444'. Dworshak was operating at full powerhouse and at elevation 1558.5'. McNary daily flow averages were around 140 kcfs. Lower Granite flows were around 30 kcfs.

Fish: Cindy LeFleur, WDFW, will provide adult fall migration information at a TMT meeting later in August, as the run is yet very early. Final spring migration numbers are posted on both the WDFW and ODFW websites and the summer finals will be out soon.

Power: Nothing to report at this time.

Water quality: A TDG exceedance occurred at the Camas/Washougal gauge (BON) on August 6 – TDG reached 115.7%.

Next TMT Face to Face Meeting, August 16, 9:00-noon

Agenda Items include:

- Dworshak Operations
- Libby/Hungry Horse Operations
- Lower Monumental Navigation and Operations Update
- Autumn Treaty Fishery

- Operations Review

Technical Management Team Meeting Notes

August 9, 2006

1. Greetings and Introductions.

The August 9 TMT meeting was chaired by Cathy Hlebechuk and facilitated by Robin Harkless. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at this meeting. Anyone with questions or comments about these notes should contact Hlebechuk at 503-808-3942.

2. Navigation Problem in Lower Monumental Tailwater.

SOR 2006-Nav-02 was submitted prior to this meeting. This SOR requests the cessation of spill during the period (approximately 20 minutes) that vessels are passing the lock at Lower Monumental. The issue is that, with the spill pattern in use at Lower Monumental this summer, an eddy is being created along the guide wall near the approach to the lower basin, and is sending the tows toward the wall, said John Piggott. It is 180 degrees to what the tow boaters have been experiencing at Lower Monumental over the years, he said; it is only the deeper, loaded barges that are affected. It's a real problem for the boat operators, he said; the upward-bound tows are having to try to navigate around the wall, and the downward-bound tows are being pushed toward the wall, then toward a shoal area in the middle of the river. Tidewater brings petroleum barges up there, and many of them are still single-skin barges, so if one of them was to run aground, that could cause a serious spill problem, he said. The only thing that seems to help is the cessation of spill, Piggott explained – flat spill doesn't help.

How long would spill have to cease? asked Kyle Dittmer. Roughly 20 minutes per barge, Piggott replied, for Tidewater, Shaver and Boss vessels. There are approximately four lockages for each of those companies per week, he added. In response to another question, Piggott said that, as river flow drops, there is always a loss of maneuvering room and control, but the real problem, in his opinion, is the spill pattern at Lower Monumental this year. There is also an eddy further downstream pushing these barges in toward the shore, added Rich Hill of the Corps.

Russ Kiefer asked if it might be possible to develop a spill pattern that would be more conducive to navigation, but would still meet fish needs. It may have to do with the fact that there is only one unit operating right now; most of the spill is coming out of gates 6 and 8, said Hill. That concentrated bulk spill is

better for fish, but creates the worst eddying conditions for navigation. I can't confirm that going to a flat spill pattern doesn't help, he added. I heard one Foss report that they had requested and received a flat pattern, but it had no effect, Piggott replied. Would it be worthwhile to test that further, try flattening the spill, and if that doesn't work, then we could cease spill while the barges are passing the project? Hlebechuk suggested. We could try that, Piggott replied. It might be better for fish just to shut spill off for a short time, Rich added.

After a few minutes of discussion, the TMT recommended that SOR 2006-Nav-2 be implemented for now, but that the salmon managers will discuss a possible alternative spill pattern with the Corps personnel at Lower Monumental, to see whether it might be possible to meet the needs of both navigators and fish. CRITFC would suggest that the tow boaters consider lighter loading, said Dittmer – that may not solve the whole problem, but it might help. Shane Scott noted that there is an FPOM meeting tomorrow at which many of the key personnel on this issue will be present. Rich Domingue asked that, if possible, lockages be limited to 10 per week during this period.

Robin MacKay expressed frustration that this SOR was endorsed by the salmon managers with little debate, but when BPA had requested a few hours' cessation of spill for a West Coast power emergency, they encountered significantly more resistance. It seems as though we're being held to a different standard, she said. I would reply that there were an enormous number of fish in the river during that time, Domingue replied. However, Bonneville is required to document everything in writing, and any actions they take that might affect fish receive very heavy scrutiny and debate, Tony Norris observed. I suggest that we take this issue up at the next TMT process meeting, Cindy LeFleur said; it was so agreed.

CRITFC opposes this SOR, because we believe lighter loading and more efficient spill patterns could resolve this problem, said Dittmer – to us, this is more an economic issue than a safety issue. We are willing to work with others to develop an alternative spill pattern to see if both needs can be met, however, Dittmer added.

It was agreed that FPOM will discuss the alternative spill pattern issue, if not for 2006, at least for future years. Hlebechuk said she will discuss CRITFC's concerns with the Corps' legal staff; this change will also have to be vetted through Judge Redden. In response to a question, Piggott said lighter loading of the barges would not solve this problem.

A couple of other questions, said Hlebechuk – with respect to the cost-effectiveness of light-loading, at how far could you reduce your draft and still break even? That's hard to calculate, because it depends on the mix of products in the tow, Piggott replied. A reasonable estimate would be, if we reduced draft by 1 foot, we would lose 10% of our capacity, which would put us very close to

the break-even point. Also, do we know how far below the surface the eddy or undertow problem extends? Hlebechuk asked. No, we do not, was the reply, but it would have to be down 14-15 feet if we're not going to have an issue, because of the depth of the barges. Would it make a difference if a different turbine was operating? Hlebechuk asked. That might be worth a try, in terms of eliminating or at least moderating the eddy, replied a Corps Lower Monumental representative – we could switch generation to, say, unit 6. However, I would hate to involve a loaded barge and tug in that research, he added. Perhaps FPOM could discuss that alternative tomorrow, Hlebechuk suggested. In the interim, until we hear back on the operational alternatives, the Corps plans to implement the towboat association's SOR.

3. Lower Snake Operation During Low-Flow Period.

FPAC met Tuesday and discussed operations during this low-flow period, when we can't maintain both minimum generation and the spill volumes specified in the implementation plan, Hlebechuk said. What we eventually agreed to is that the Corps seems to have a good plan in place, currently, when flows drop below the level where we can provide both minimum generation and the required spill volumes, said Kiefer; they want to pond water to provide more spill during nighttime hours. We will discuss this further, but at this point, they have a good plan in place. We're going to recommend that the Corps maintain that course of action, he said.

So at Ice Harbor, Lower Granite and Lower Monumental, we will run one unit at minimum generation 24 hours a day, said Hlebechuk. If we approach the top of the pool, we will spill more, and if we approach the bottom of the pool, we will cut back on spill, she said. The minimum generation requirement at Ice Harbor is 9.5 Kcfs; it is 11.5 Kcfs at the other Lower Snake projects.

4. Dworshak Operation.

Hlebechuk and Jim Adams provided an overview of the documents hot-linked to this item on today's agenda; Hlebechuk noted that, if Dworshak continues to release full powerhouse capacity between now and August 31, there will be a deficit of about 71 kaf below the planned end-of-August elevation of 1535 feet. To make up that shortfall, she said, we will need to go to 7.2 Kcfs outflow from Dworshak for about 15 days between now and the end of the month. Adams noted that water temperatures are declining at all of the Lower Snake projects; we're in a natural cooling trend at the moment, he said, although temperatures coming out of Anatone and Orofino are still in the low to mid-70-degree range. The Dworshak release temperature continues in the 46-degree range, which is as cold as we can make it, Adams said.

Dittmer said the 14-day weather forecast shows no upcoming temperature extremes, although once the current cooler conditions end, air temperatures are

expected to warm up to the mid-90s in the Lewiston area. Next, Adams directed the group's attention to recent model results from Mike Schneider. Schneider said he had looked at various Dworshak operations, with the goal of reducing Dworshak outflow to a two-unit operation; the question is, when is the optimum time to do that? he said. He provided a brief overview of his modeling results; the scenarios included a base case, under which the current operation would continue, and a scenario under which Dworshak outflow would be reduced to 7.2 Kcfs at noon today. He noted that these results are heavily dependent on the volume coming out of the Hells Canyon complex; in recent days, Idaho Power has been releasing significantly more volume from Hells Canyon than what is assumed in these model runs.

The bottom line is that, according to these model runs, if we back off Dworshak flow today, we would be about a degree warmer at the Lower Granite tailrace than if we continue with the current operation, but we should still be able to keep water temperatures below the 68-degree standard, at least for the next 5-6 days, Schneider said – that would give us greater flexibility, in terms of the volume of cold water available from Dworshak, to handle any warming events later in August. Schneider said, however, that he would recommend, based on these results, that Dworshak continue to release full powerhouse capacity until Idaho Power reduces Hells Canyon outflow.

The group devoted a few minutes of discussion to Schneider's model results and to the Dworshak operation. Kiefer said FPAC was able to reach a consensus recommendation at yesterday's meeting; the salmon managers would prefer to maintain full powerhouse releases from Dworshak until August 16, when it will be necessary to reduce outflow to two units in order to meet the 1535 elevation target at Dworshak by August 31. That consensus recommendation included participation from the Nez Perce Tribe, he added; no Nez Perce representative participated in today's TMT call. Kiefer added that, as a State of Idaho representative, rather than in his role as FPAC chair, that he sees some value in adjusting Dworshak outflow to match what is occurring at the Hells Canyon complex.

Ultimately, the TMT recommended that the Corps continue to release full powerhouse capacity from Dworshak for the next week; this operation will be revisited at the August 16 TMT meeting. In the interim, if Idaho Power reduces Hells Canyon outflow significantly, or if weather conditions change, the Corps invited the salmon managers to submit an alternative operational recommendation. That works, said Kiefer, adding that the salmon managers appreciate Schneider's modeling efforts. If the salmon managers would like Mike to model any additional scenarios, please let us know as soon as possible, Adams added.

5. Review of Summer Treaty Fishing.

Dittmer said CRITFC has submitted four SORs covering six weeks of summer treating fishing; these SORs requested a stable, one-foot operating range at the Zone 6 pools during the periods of the treaty fishery. As usually, the COE committed to a 1.5' operating range only at Bonneville. Using CRITFC's 1' criteria at Bonneville pool, compliance was 93%, up from 2005 compliance; at The Dalles, it was 62%, down from 2005 compliance; at John Day pool, 99% compliance, significantly up from 2005 compliance. Using the COE 1.5' criteria at Bonneville, compliance was 100% of the time. We checked with the Hood River law enforcement office to see whether any nets were lost, Dittmer said; there were no problems reported, so kudos to the action agencies. In terms of the autumn treaty fishery, we're anticipating that will begin some time in the third week of August, so you should be getting an SOR from us late next week. We're anticipating a similar season to last year, perhaps four or five weeks in all, he said.

6. Operations Review.

The Corps reported that Libby is at elevation 2450.8 feet and releasing 14 Kcfs; they anticipate that the project will be around elevation 2444 feet on August 31. Dworshak is releasing full powerhouse capacity and is at elevation 1558.5 feet. Flows at McNary have averaged 140-150 Kcfs over the past week; at Lower Granite, about 30 Kcfs. Reclamation said Grand Coulee is at 1283.3 feet; Hungry Horse is at 3550.9, while Banks Lake is at 1563 feet.

LeFleur said it is very early in the adult fall chinook migration. We're in the middle of the summer steelhead run, and numbers are increasing past Bonneville, currently. I'll have a further update on fall chinook adults later in August, she said. MacKay said there are no power system problems to report. With respect to water quality, there was one TDG exceedence at Camas/Washougal on August 6, Adams said.

7. Next TMT Meeting Date.

The next meeting of the Technical Management Team was set for Wednesday, August 16. Meeting summary prepared by Jeff Kuechle, BPA contractor.

TMT Meeting Participants August 9, 2006

Name	Affiliation
Cathy Hlebechuk	COE
Robin Harkless	Facilitation Team
Shane Scott	NWRP

Russ George	WMCI
Tom Le	PSE
Cindy LeFleur	WDFW
Mike Buchko	Powerex
Glenn Traeger	Avista
John Piggott	Towboaters Assoc.
Robin MacKay	BPA
Rich Domingue	NOAAF
Tony Norris	USBR
Rudd Turner	COE
Jim Adams	COE